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(54) Title: PROCESS FOR PRODUCTION OF 1,1,1,2-TETRAFLUOROETHANE AND/OR PENTAFLUOROETHANE AND APPLICATIONS OF THE SAME

(57) Abstract: A process for producing high purity 1,1,1,2-tetrafluoroethane and/or pentafluoroethane by the step of purifying a crude product obtained by reacting trichloroethylene and/or tetrachloroethylene with hydrogen fluoride comprised of a main product including 1,1,1,2-tetrafluoroethane and/or pentafluoroethane, hydrogen fluoride as an azeotropic component with the main product, and impurity ingredients including at least an unsaturated compound, wherein said purifying step includes a step of bringing a mixture obtained by newly adding hydrogen fluoride into said crude product into contact with a fluorination catalyst in the vapor phase to reducing the content of the unsaturated compound contained in said crude product and a distillation step.



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## INTERNATIONAL SEARCH REPORT

International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C17/20 C07C17/383 C07C19/08 B01J23/86

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BEILSTEIN Data, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 2005/019141 A (SHOWA DENKO K.K; OHNO, HIROMOTO; ARAI, TATSUHARU) 3 March 2005 (2005-03-03) *whole document; in particular: the abstract; page 3, last paragraph; page 8, last paragraph; page 13, lines 11-28; page 17, lines 16-32; the examples and the claims*	1-13
X	WO 01/98240 A (SHOWA DENKO K.K; OHNO, HIROMOTO; KAGA, KAZUNARI; OHI, TOSHIO) 27 December 2001 (2001-12-27) *whole document; in particular: abstract; page 3, lines 19-26; page 6, lines 10-20; page 10, lines 6-27; page 13, lines 13-15; page 18, last paragraph; page 20, last paragraph; the examples and claims* ----- -/-	1-13

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/183568 A1 (OHNO ET AL.) 5 December 2002 (2002-12-05) *whole document; in particular: abstract; paragraphs 11, 18, 43, 44 and 71; the examples and the claims*	1-13
X	EP 0 582 786 A (SHOWA DENKO KABUSHIKI KAISHA) 16 February 1994 (1994-02-16) *whole document; in particular: abstract; page 3, lines 35-47; page 5, lines 11 and 12; the examples and the claims*	1-10
X	WO 2004/005226 A (SHOWA DENKO K. K; OHNO, HIROMOTO; OHI, TOSHIO) 15 January 2004 (2004-01-15) *whole document; in particular: abstract; page 5, lines 24-30; page 12, lines 11-22*	1-10,12, 13
X	EP 0 582 156 A (SHOWA DENKO KABUSHIKI KAISHA) 9 February 1994 (1994-02-09) the whole document	1-10
X	US 5 892 134 A (OHNO ET AL) 6 April 1999 (1999-04-06) *abstract; column 4, second paragraph and examples 7-9*	11-13